

10/527025  
DT01 Rec'd PCT/PT 08 MAR 2005

**Amendments to the Claims**

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-18. (canceled)

19. (new) A pneumatic tyre, comprising:

at least one temperature indicator;

wherein the at least one temperature indicator comprises:

at least one reactive substance; and

at least one dye substance;

wherein the at least one reactive substance has a threshold temperature,

wherein the at least one dye substance has at least one characteristic peak in its absorption or emission spectrum,

wherein, when an excess temperature is reached in the tyre, the at least one reactive substance is heated above the threshold temperature and reacts with the at least one dye substance so as to modify the at least one characteristic peak.

20. (new) The pneumatic tyre of claim 19, comprising:

at least two temperature indicators.

21. (new) The pneumatic tyre of claim 20, wherein the at least two temperature indicators comprise different reactive substances with different threshold temperatures.

22. (new) The pneumatic tyre of claim 20, wherein the at least two temperature indicators are positioned in axial sequence between a crown shoulder and an equatorial plane of the tyre.

23. (new) The pneumatic tyre of claim 19, wherein the at least one dye substance comprises a carbonyl dye.

24. (new) The pneumatic tyre of claim 19, wherein the at least one reactive substance comprises a radical initiator.

25. (new) The pneumatic tyre of claim 24, wherein the radical initiator is a peroxide.

26. (new) The pneumatic tyre of claim 24, wherein the radical initiator is paramethyl benzoyl peroxide.

27. (new) The pneumatic tyre of claim 24, wherein a molar ratio of the radical initiator to the at least one dye substance is greater than or equal to about 50:1 and less than or equal to about 150:1.

28. (new) The pneumatic tyre of claim 24, wherein a molar ratio of the radical initiator to the at least one dye substance is greater than or equal to about 90:1 and less than or equal to about 120:1.

29. (new) The pneumatic tyre of claim 19, wherein the at least one temperature indicator comprises an opaque medium.

30. (new) The pneumatic tyre of claim 29, wherein the opaque medium comprises one or more of titanium dioxide, calcium carbonate, silica, and sodium sulfate.

31. (new) The pneumatic tyre of claim 19, wherein the at least one temperature indicator comprises a binding material.

32. (new) The pneumatic tyre of claim 31, wherein the binding material is a cross-linkable material.

33. (new) The pneumatic tyre of claim 31, wherein the binding material comprises low-temperature-vulcanizing properties.

34. (new) The pneumatic tyre of claim 31, wherein the binding material comprises low-temperature-polymerizing properties.

35. (new) The pneumatic tyre of claim 31, wherein the binding material comprises (C1-8)alkyl-cyano-acrylates.

36. (new) The pneumatic tyre of claim 19, wherein the at least one temperature indicator is coated by a binding material.

37. (new) The pneumatic tyre of claim 36, wherein the binding material is a cross-linkable material.

38. (new) The pneumatic tyre of claim 36, wherein the binding material comprises low-temperature-vulcanizing properties.

39. (new) The pneumatic tyre of claim 36, wherein the binding material comprises low-temperature-polymerizing properties.

40. (new) The pneumatic tyre of claim 36, wherein the binding material comprises (C1-8)alkyl-cyano-acrylates.

41. (new) The pneumatic tyre of claim 19, wherein the at least one temperature indicator is applied on a surface of an adhesive substrate, and  
wherein the adhesive substrate is then applied onto the tyre.

42. (new) A temperature indicator, comprising:  
at least one reactive substance; and  
at least one dye substance;  
wherein the at least one reactive substance has a threshold temperature,  
wherein the at least one dye substance has at least one characteristic peak in its  
absorption or emission spectrum,  
wherein, when an excess temperature is reached in the tyre, the at least one reactive  
substance is heated above the threshold temperature and reacts with the at least one dye  
substance so as to modify the at least one characteristic peak.